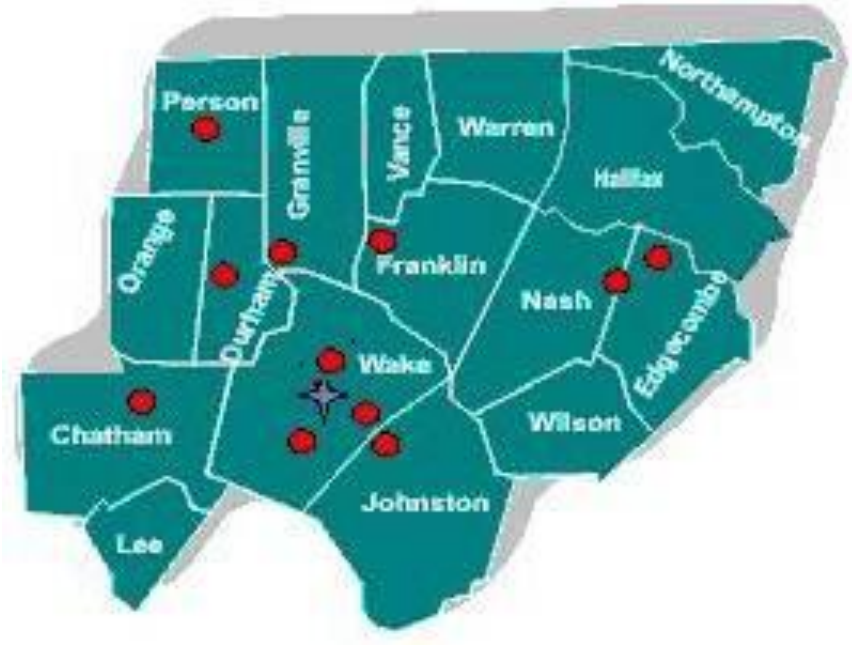
2012 ANNUAL MONITORING NETWORK PLAN FOR THE NORTH CAROLINA DIVISION OF AIR QUALITY

VOLUME 2

SITE DESCRIPTIONS BY DIVISION OF AIR QUALITY REGIONAL OFFICE AND METEROPOLITAN STATISTICAL AREA

D. THE RALEIGH MONITORING REGION



July 2, 2012

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D. The Raleigh Monitoring Region

The Raleigh Monitoring Region of North Carolina, shown in Figure D1, consists of six sections: (1) the Durham-Chapel Hill Metropolitan Statistical Area (MSA) (Chatham, Durham, Orange, and Person Counties), (2) the Northeastern Piedmont (Granville, Halifax, Northampton, Vance, and Warren Counties), (3) the Raleigh Cary MSA (Franklin, Johnston, and Wake Counties), (4) the Rocky Mount MSA (Edgecombe and Nash Counties), (5) the Wilson Micropolitan Statistical Area (Wilson County), and (6) the Sanford Micropolitan Statistical Area (Lee County).

Figure D1. The Raleigh Monitoring Region
The red dots show the approximate locations of most of the monitoring sites in this region.

(1) Durham-Chapel Hill MSA

The Durham-Chapel Hill MSA consists of four counties: Chatham, Durham, Orange and Person. The major metropolitan areas are the Cities of Durham and Chapel Hill. The North Carolina Division of Air Quality (NC-DAQ) currently operates three monitoring sites in the Durham-Chapel Hill MSA. These sites are located at Pittsboro (Chatham County), the Durham Armory in Durham (Durham County), and Bushy Fork (Person County). The locations of these monitors are shown in Figure D2.

A is the Pittsboro monitoring site; B is the Durham monitoring site; C is the Bushy Fork monitoring site. The circles around the monitoring sites approximate the scales of representation (urban – 4 to 50 Km for Pittsboro ozone and fine particles and Bushy Fork ozone; neighborhood – 0.5 to 4 Km for Durham Armory ozone and fine particles).

Figure D2. Location of Monitors in the Durham-Chapel Hill MSA.

At the **Pittsboro** (37-037-0004) site the NC-DAQ operates a seasonal ozone monitor, a one-in-three day fine particle Federal Reference Method (FRM) monitor, and a special purpose sulfur dioxide monitor. A picture of the site and views looking north, east, south, and west are provided in Figure D3 through Figure D7. The Pittsboro ozone site is an upwind site for the Durham-Chapel Hill MSA. Sulfur dioxide monitoring on an every third year schedule started at the site in January 2008 as a background site for obtaining data for Prevention of Significant Deterioration (PSD) modeling requirements for industrial expansion.

Figure D3. The Pittsboro Ozone, Fine Particle and Sulfur Dioxide Monitoring Site (37-037-0004)

Figure D4. Looking North from the Pittsboro Site

Figure D5. Looking West from the Pittsboro Site

Figure D6. Looking East from the Pittsboro Site

Figure D7. Looking South from the Pittsboro Site

At the Durham Armory site the NC-DAQ operates a seasonal ozone monitor, a one-in-three day fine particle FRM monitor, a one-in-three day low volume PM_{10} monitor, and a continuous fine particle monitor. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest are provided in Figure D8 through Figure D16. This fine-particle monitoring site is the design value site for the MSA. On January 1, 2011, the NC-DAQ started operating the low volume PM_{10} monitor at the site to meet minimum monitoring requirements for PM_{10} for the Durham-Chapel Hill MSA and to provide data for determining $PM_{10-2.5}$.

Figure D8. The Durham Armory Ozone, Ozone Precursor, and Fine Particle Site

Figure D9. Looking North from the Durham Armory Site

Figure D11. Durham Armory Site Looking Northeast

Figure D10. Durham Armory Site Looking Northwest

Figure D12. Looking East from the Durham Armory Site

Figure D13. Looking West from the Durham Armory Site

Figure D15. Durham Armory Site Looking Southeast

Figure D14. Durham Armory Site Looking Southwest

Figure D16 Looking South from the Durham Armory Site

At the Bushy Fork site the NC-DAQ operates a seasonal ozone monitor. A picture of the site as well as views looking north, east, south, and west are provided in Figure D17 through Figure D21. The Bushy Fork site was established as the downwind site for the Burlington MSA. This site is the third ozone-monitoring site in the MSA. 40 CFR 58 Appendix D requires the Durham-Chapel Hill MSA to have two ozone monitoring sites. Because this site is not required by the EPA and is a single pollutant site, the NC-DAQ may consider relocating this site to another part of the state if ozone monitoring is required elsewhere and additional resources are unavailable.

Figure D17. Bushy Fork ozone monitoring site

Figure D18. Bushy Fork Site Looking North

Figure D20. Bushy Fork Site Looking East

Figure D19. Bushy Fork Site Looking West

Figure D21. Bushy Fork Site Looking South

In 2008 EPA expanded the **lead monitoring** network to support the lower lead National Ambient Air Quality Standard (NAAQS) of 0.15 micrograms per cubic meter. In December 2010 the EPA revised the monitoring requirements to focus on fence line monitoring located at facilities that emit 0.5 tons or more of lead per year and at National Core (NCore) monitoring sites. These changes to the lead monitoring network requirements did not impact the Durham-Chapel Hill MSA. This MSA does not have an NCore monitoring station. Also, the Roxboro electricity generating facility emitted less than 0.25 tons of lead in 2010 because of control devices installed on the coal-fired boilers. Modeling performed in 2009 indicated the concentrations of lead in ambient air around the facility are less than 0.01 micrograms per cubic meter, which is far enough below the NAAQS that no fence-line monitoring is required for this facility.

At this time no new **ozone monitoring** requirements are expected. However, the MSA currently exceeds the minimum number of monitors required by 40 CFR 58 Appendix D for population exposure monitoring in urban areas. This area would also not be impacted by rural ozone monitoring requirements as it does not have any Class I Areas.

The Durham-Chapel Hill MSA is affected by the 2010 **nitrogen dioxide** monitoring requirements because its population exceeded the 500,000 threshold in 2009. As a result it is required to have a near roadway monitor. At this time due to lack of funds, the United States Environmental Protection Agency is revising

the regulation to require near road monitors in MSAs with less than one million people to start operating on January 1, 2017. According to the technical assistance document, EPA recommends placing near road monitoring stations along road segments with the highest average annual daily traffic values adjusted for fleet mix. Sites should also be evaluated based on congestion patterns, roadway design, terrain, and meteorology. The segments in the Durham-Chapel Hill MSA with the highest average annual daily traffic adjusted for fleet mix are shown in Table D1.

Table D1. Fleet Equivalent Average Annual Daily Traffic for Road Segments in the Durham-Chapel Hill Metropolitan Statistical Area

STATION	ROUTE	LOCATION	Station	Percent Passenger	2010 AADT	Fleet Equivalent AADT
(A) 1011	I-40	FROM EXIT 282 TO EXIT 283	09MC0030	90%	163000	309,700
(B) 947	I-40	FROM EXIT 281 TO EXIT 282	09MC0030	90%	159000	302,100
(C) 547	I-40	FROM EXIT 280 TO EXIT 281	09MC0030	90%	152000	288,800
(D) 553	I-40	FROM EXIT 279 TO EXIT 280	10MC0005	94%	151000	239,335
(E) 942	I-40	FROM EXIT 273 TO EXIT 274	09MC0028	90%	112000	208,768
(F) 6	I-85	FROM EXIT 160 TO EXIT 161	09MC0069	88%	97000	206,125
(G) 91	I-85	FROM EXIT 161 TO EXIT 163	09MC0069	88%	94000	199,750
(H) 5	I-85	FROM EXIT 157 to EXIT 160	09MC0069	88%	92000	195,500
(I) 727	I-40	FROM EXIT 278 TO EXIT 279	10MC0005	94%	121000	191,785

The locations of these segments are shown with lettered green and red squares in Figure D22. They stretch from the eastern part of Durham County into central Orange County with heaviest fleet adjusted average annual daily traffic being along I-40 near the Durham-Wake County line. Because the highest ranked sites are within a mile or so of the Raleigh-Cary near road monitoring site off of Triple Oak Road along I-40 between Exit 283 and Exit 284, the NC-DAQ is requesting a waiver for the near road Durham-Chapel Hill monitoring site.

Figure D22. Locations of Segments with Highest Fleet Adjusted AADT in the Durham-Chapel Hill MSA

The 2010 **sulfur dioxide monitoring** requirements will affect the Durham MSA because of power generating facilities located in Person and Chatham Counties and a large population base. The Durham MSA will be required to have a Population-Weighted Emission Index monitor that will be located at the Armory site as a population exposure monitor. Figure D23 shows the location of the proposed PWEI monitor relative to where people lived based on the 2000 census. Figure D24 shows the distribution of sulfur dioxide emissions among the counties in the MSA. The closest permitted source of sulfur dioxide to the Armory site is Durham Regional Hospital, located 0.5 kilometers northeast of the site, as shown in Figure D25. The hospital reported emitting 0.3 tons of sulfur dioxide in 2006.

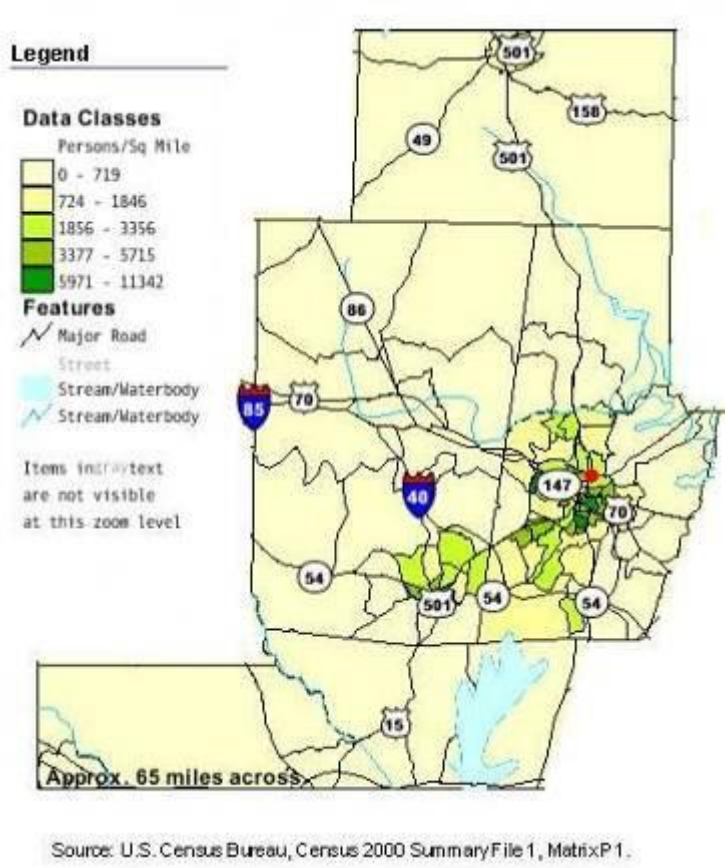

Figure D23. Location of Proposed Durham-Chapel Hill PWEI Monitor in Relationship to Centers of Population in 2000

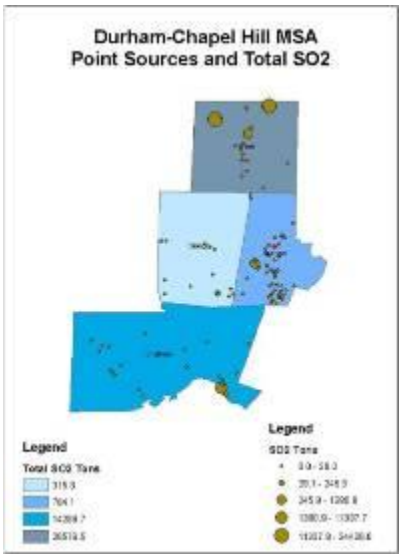

Figure D24. Location of the proposed Durham-Chapel Hill PWEI Sulfur Dioxide Monitor (red dot) in Relationship to Sulfur Dioxide Sources

Figure D25. Location of the Armory Monitoring Site (A) in Relationship to the Durham Regional Hospital (B)

Changes to the **carbon dioxide monitoring** requirements do not affect this MSA because the population is too small.

(2) The Northeastern Piedmont

The Northeastern Piedmont consists of five counties: Granville, Halifax, Northampton, Vance, and Warren. There is not an MSA in these counties; however, Henderson Micropolitan Statistical Area is located in Vance County and the Roanoke Rapids Micropolitan Statistical Area consists of Halifax and Northampton Counties. The NC-DAQ currently operates one monitoring site in the Northeastern Piedmont. This site is located at Butner (Granville County). The location of this monitoring site is shown in Figure D26.

Figure D26. Location of the Butner Monitoring Site

A is the Butner ozone monitoring site. The circle around the site approximates the urban scale (4 to 50 Km).

At the **Butner** (37-077-0001) site the NC-DAQ operates a seasonal ozone monitor. A picture of the site as well as views looking north, east, south, and west are provided in Figure D27 through Figure D31. The Butner site was established as the downwind site for the Durham-Chapel Hill MSA when the wind is from the primary direction during the season of highest ozone concentrations.

Figure D27. The Butner Ozone Monitoring Site

Figure D28. Looking North from the Butner Site

Figure D30. Looking East from the Butner Site

Figure D29. Looking West from the Butner Site

Figure D31. Looking South from the Butner Site

This area is not impacted by 2010 changes made to the **lead monitoring** requirements because it does not have facilities that emit 0.5 ton or more of lead per year or NCore monitoring sites.

New **ozone monitoring** requirements, if any, will not impact the Northeastern Piedmont. The area does not have any MSAs that are required by 40 CFR 58 Appendix D to conduct population exposure monitoring in urban areas. This area would also not be impacted by rural ozone monitoring requirements. It does not have any Class I Areas and already has a monitor in Butner (37-077-0001).

The Northeastern Piedmont is not affected by the 2010 **nitrogen dioxide** monitoring requirements because it does not have any roads exceeding the traffic threshold and does not have any MSAs that trigger nitrogen dioxide monitoring requirements. The Northeastern Piedmont is also not affected by the 2010 **sulfur dioxide monitoring** requirements because there are no large sources of sulfur dioxide in this area. This area is also not impacted by the changes to the **carbon dioxide monitoring** requirements because the population is too small.

(3) The Raleigh-Cary MSA

The Raleigh-Cary MSA consists of three counties: Franklin, Johnston, and Wake County. The major metropolitan areas include Raleigh and Cary. The NC-DAQ currently operates five monitoring sites in

the Raleigh-Cary MSA. These sites are located at Franklinton (Franklin County), West Johnston (Johnston County), and Millbrook, Fuquay, and Finley Farm (Wake County).

At the **Franklinton** (37-069-0001) site the NC-DAQ operates a seasonal ozone monitor. A picture of the site and views looking north, east, south, and west are provided in Figure D34 through Figure D36. The Franklinton ozone site was established as the downwind site for the Raleigh MSA when the wind is from the primary direction during the season of highest ozone concentrations. This site is one of four ozone-monitoring sites in the MSA. 40 Code of Federal Regulations (CFR) 58 Appendix D requires the Raleigh MSA to have two ozone monitoring sites.

Figure D34. The Franklinton Ozone Monitoring Site

Figure D32. Looking North from the Franklinton Site

Figure D35. Looking East from the Franklinton Site

Figure D33. Looking West from the Franklinton Site

Figure D36. Looking South from the Franklinton Site

In July 2010, the NC-DAQ moved the site about 10 meters from its original location on the school property due to the widening and paving of a road next to the site.

At the **West Johnston** (37-101-0002) site the NC-DAQ operates a seasonal ozone monitor and a one-in-three day fine particle FRM monitor. The West Johnston ozone site was established as the upwind site for the Raleigh MSA when the wind is from the secondary direction during the season of highest ozone concentrations. This site is one of four ozone-monitoring sites in the MSA. 40 Code of Federal Regulations (CFR) 58 Appendix D requires the Raleigh MSA to have two ozone monitoring sites. The West Johnston fine particle site was established as the third fine particle monitoring site in the MSA because the Raleigh MSA has an estimated population over 1 million people and was required to have three fine particle monitors when its design value was 85 % of the standard or greater.

Figure D37. The West Johnston Ozone and Fine Particle Monitoring Site

Currently the design value for the Raleigh MSA is less than 85 % of the standard so only two monitoring sites are required. The North Carolina Division of Air Quality is planning on adding a continuous fine particle monitor at the site that may eventually replace the FRM monitor. A picture of the site and views looking north, east, south, and west are provided in Figure D37 through Figure D41.

Figure D38. Looking north from the West Johnston site

Figure D39. Looking West from the West Johnston site

Figure D40. Looking East from the West Johnston Site

Figure D41. Looking south from the West Johnston site

At the **Millbrook** (37-183-0014) site the NC-DAQ operates year-round ozone, one-in-three day fine particle FRM, one-in-three day manual SASS and URG fine particle speciation, continuous BAM fine particle, one-in-three day PM_{10} and $PM_{10-2.5}$, and trace-level sulfur dioxide, carbon monoxide and reactive oxide of nitrogen monitors. The NC-DAQ also operates continuous fine particle monitors for sulfate, nitrate and black carbon and a meteorological station at this site. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest are provided in Figure D42 through Figure D50. The Millbrook site is an NCORE (National Community Representative) site. December 27, 2011, the NC-DAQ began analyzing the low volume PM_{10} filters for lead on a one-in-six day schedule to meet the 2010 monitoring requirements for lead monitoring at NCore sites. Starting in 2013 the NC-DAQ will begin collecting nitrogen dioxide measurements at the site using a photolytic nitrogen dioxide monitor. This site will be the required area wide site for nitrogen dioxide.

Figure D42. Millbrook NCore Monitoring Site

Figure D43. Looking North from the Millbrook Site

Figure D44. Looking Northeast from the Millbrook Site

Figure D45. Looking Northwest from the Millbrook Site

Figure D46. Looking West from the Millbrook Site

Figure D47. Looking Southwest from the Millbrook Site

Figure D48. Looking East from the Millbrook Site

Figure D49. Looking Southeast from the Millbrook Site

Figure D50. Looking South from the Millbrook Site

At the **Fuquay** (37-183-0016) site the NC-DAQ operates a seasonal ozone monitor, established as the upwind site for the Raleigh MSA when the wind is from the primary direction during the season of highest ozone concentrations. Figure D51 through Figure D55 show the site and views looking north, east, south, and west. This site is one of four ozone-monitoring sites in the MSA. 40 CFR 58 Appendix D requires two ozone sites.

Figure D51. Fuquay Ozone Monitoring Site

Figure D52. Looking North from the Fuquay Site

Figure D54. Looking East from the Fuquay Site

Figure D53. Looking West from the Fuquay Site

Figure D55. Looking South from the Fuquay Site

At the **Finley Farm** (37-183-0020) site the NC-DAQ operates a one-in-three day fine particle FRM monitor. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest are provided in Figure D56 through Figure D62.

Figure D56. The Finley Farm Fine Particle Monitoring Site (37-183-0020)

Figure D57. Looking North from the Finley Farm Site

Figure D60. Looking Northeast from the Finley Farm Site

Figure D58. Looking West from the Finley Farm Site

Figure D61. Looking East from the Finley Farm Site

Figure D59. Looking Southwest from the Finley Farm Site

Figure D62. Looking South from the Finley Farm Site

The December 2010 changes to the **lead monitoring** requirements affect the Raleigh-Cary MSA because it has an NCore monitoring site. Lead monitoring at the Raleigh Millbrook monitoring site started December 27, 2011, using the low-volume PM_{10} monitor already at the site. The Raleigh-Cary MSA does not have any permitted facilities located within its bounds that emit 0.5 ton or more per year of lead.

Any changes to the **ozone monitoring** requirements would not impact the Raleigh-Cary MSA. The MSA currently exceeds the minimum number of monitors required by 40 CFR 58 Appendix D for population exposure monitoring in urban areas. This area would also not be impacted by rural ozone monitoring requirements. It does not have any Class I Areas.

The 2010 **nitrogen dioxide** monitoring requirements affect the Raleigh-Cary MSA. Because its population exceeds the 500,000 threshold, it is required to have a near road monitor. The United States Environmental Protection Agency recommends states choose near road monitoring stations along road segments with the highest average annual daily traffic values adjusted for fleet mix. Sites should also be evaluated based on congestion patterns, roadway design, terrain, and meteorology. The segments with the highest average annual daily traffic adjusted for fleet mix are shown in Table D2.

Table D2. Fleet Equivalent Average Annual Daily Traffic for Selected Road Segments in the Raleigh-Cary Metropolitan Statistical Area

STATION	ROUTE	LOCATION	Station	Percent Passenger	2010 AADT	Fleet Equivalent AADT
(A) 1	I-40	FROM EXIT 287 TO EXIT 289	09MC0031	94%	147000	227,703
(B) 813	I-40	FROM EXIT 285 TO EXIT 287	09MC0031	94%	141000	217,140
(C) 807	I-40	FROM EXIT 283 TO EXIT 284	09MC0031	94%	132000	203,280
(D) 811	I-40	FROM EXIT 284 TO EXIT 285	09MC0031	94%	128000	197,120
(E) 634	I-40	FROM EXIT 297 TO EXIT 298	09MC0033	92%	113000	196,394
(F) 889	I-40	FROM EXIT 300 TO EXIT 301	10MC0021	91%	101000	182,810
(G) 630	I-40	FROM EXIT 299 TO EXIT 300	09MC0034	93%	108000	176,040
(H) 635	I-40	FROM EXIT 295 TO EXIT 297	09MC0032	93%	107000	174,410

The locations of these segments are shown with lettered red and green squares in Figure D22. They stretch along I-40 from the Durham-Wake County line in the west to the eastern side of Raleigh.

Figure D63. Possible Locations of Future Raleigh-Cary Near-Road Nitrogen Dioxide Monitoring Sites

The segment with the highest fleet adjusted average annual daily traffic is located on I-40 between Harrison and Wade Avenue. However, there is not a safe, accessible location to place a monitoring station along this segment of the roadway or along the second highest segment. As a result, the near road monitoring station will be placed on the west bound side of I-40 between Exit 283 and 284 off of Triple Oak Road.

The Raleigh-Cary MSA has over 1 million people so it is also required to have a community or area-wide monitor. This monitor will be located at the Raleigh Millbrook NCore monitoring site and will start operating on January 1, 2013.

The 2010 **sulfur dioxide monitoring** requirements did not affect the Raleigh-Cary MSA because there are no large sources of sulfur dioxide in the MSA. This MSA will be affected by the changes to the **carbon dioxide monitoring** requirements because near road carbon dioxide monitoring is required in MSAs greater than one million people starting in 2017.

(4) Rocky Mount MSA

The Rocky Mount MSA consists of two counties: Edgecombe and Nash County. The major metropolitan area is the City of Rocky Mount. The NC-DAQ currently operates two monitoring sites in the Rocky Mount MSA. These sites are located in Edgecombe County in Rocky Mount and Leggett. The locations of these monitoring sites are shown in Figure D64.

A is the Leggett ozone and continuous fine particle site; B is the Springfield Road manual fine particle site. The circle approximates the neighborhood scale of representation (0.5 to 4 Km) for the fine particle monitor. The scale of representation for the ozone monitor is regional which is over 50 Km so the scale of representation is not shown on this map.

Figure D64. Location of the Monitoring Sites in the Rocky Mount MSA

At the **Springfield Road** site in Rocky Mount the NC-DAQ operates a one-in-three day fine particle FRM monitor. The site is shown in Figure D65. As the NC-DAQ converts over to a wireless polling network, this monitor may eventually be replaced with a regulatory continuous fine particle monitor.

Figure D65. The Springfield Road Fine Particle Monitoring Site in Rocky Mount

At the **Leggett** site the NC-DAQ operates a seasonal ozone monitor and a non-regulatory continuous fine particle monitor. The ozone monitor is required for the MSA. In April 2011, the NC-DAQ added a continuous fine particle monitor to the site to enable real time fine particle air quality index reporting and fine particle forecasting. Figure D66 through Figure D74 show the site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest.

Figure D66. Leggett Seasonal Ozone Monitoring Site

Figure D67. Looking North from the Leggett Site

Figure D68. Looking Northwest from the Leggett Site

Figure D69. Looking West from the Leggett Site

Figure D70. Looking Southwest from the Leggett Site

Figure D71. Looking Northeast from the Leggett Site

Figure D73. Looking Southeast from the Leggett Site

Figure D72. Looking East from the Leggett Site

Figure D74. Looking South from the Leggett Site

Changes made to the **lead monitoring** requirements in December 2010 did not affect the Rocky Mount MSA because it does not have an NCore monitoring site and does not have any permitted facilities located within its bounds that emit 0.5 tons or more of lead per year. [1]

Any changes to the **ozone monitoring requirements** are not expected to affect the Rocky Mount MSA. The MSA already has the minimum number of monitors required by 40 CFR 58 Appendix D for population exposure monitoring in urban areas. This area should not be affected by rural ozone monitoring requirements because it does not have any Class I Areas.

The 2010 **nitrogen dioxide monitoring** requirements do not affect the Rocky Mount MSA because its population is less than 500,000. It also is not affected by the 2010 sulfur dioxide monitoring requirements because there are no large sources of sulfur dioxide in the MSA. This area was also not affected by the changes to the **carbon dioxide monitoring** requirements because the population is too small.

(5) The Wilson Micropolitan Statistical Area

The Wilson Micropolitan Statistical Area consists of Wilson County. There currently is no Metropolitan Statistical Area in Wilson County; however, the Wilson Micropolitan Statistical Area is located here. The Wilson area is growing and will soon be large enough to become an MSA. The NC-DAQ currently does not operate any monitoring sites in the Wilson Micropolitan Statistical Area; however, when Wilson

[1] Data obtained from the NC-DAQ emission inventory database.

becomes an MSA, the NC-DAQ may be required to add an ozone monitor to the MSA if the ozone monitoring regulations are changed to require ozone monitoring in MSAs without design values. Monitoring sites are located in four neighboring counties: Johnston, Wayne, Pitt and Edgecombe. The locations of these monitors are shown in Figure D75.

The Wilson Micropolitan Statistical Area is outlined in heavy black line. A is the Leggett site; B is the Springfield Road site; C is the West Johnston site; D is the Dillard School site; E is the Pitt County Agricultural Center site. Circles around the monitors approximate the scale of representation (neighborhood – 0.5 to 4 Km for the Springfield Road, West Johnston, Dillard, and Pitt Co Ag Center fine particle monitors, urban – 4 to 50 Km for the West Johnston ozone monitor, and regional - 50 Km plus for the Leggett and Pitt Co Ag Center ozone monitors).

Figure D75. Locations of Monitors Surrounding the Wilson Micropolitan Statistical Area

The Wilson Micropolitan Statistical Area was impacted by changes made to the **lead monitoring** requirements in December 2010 because it has a permitted facility located within its bounds that emits more than 0.5 tons per year of lead.[2] Saint-Gobain Containers, LLC, reported 2009 lead emissions of 0.84 tons. The NC DAQ requested and received a waiver for Saint-Gobain based on the results of modeling. Model results indicate the maximum ambient lead concentration in the ambient air at and beyond the fence line is 0.015 micrograms per cubic meter, well below the 0.075 micrograms per cubic meter (50 % of the NAAQS) threshold for monitoring.

Any changes to the **ozone monitoring** requirements will not impact the Wilson Micropolitan Statistical Area until it becomes an MSA. As long as it is not an MSA, it does not have to meet population exposure monitoring requirements for urban areas. It is possible that the Wilson Micropolitan Statistical Area could be reclassified as an MSA in 2013 when the MSA classifications are scheduled to be revised. Rural ozone monitoring requirements will also not impact this area. There are no Class I areas in Wilson County and existing monitors in other micropolitan statistical areas in the state will be used to meet any monitoring requirements for monitoring within a micropolitan statistical area.

The Wilson Micropolitan Statistical Area is not impacted by the 2010 **nitrogen dioxide monitoring** requirements because its population is less than 500,000. It also is not impacted by the 2010 **sulfur dioxide monitoring** requirements because the population is too small and the sulfur dioxide emissions are too low to trigger PWEI monitoring. This area is also not impacted by the changes to the **carbon dioxide monitoring** requirements because the population is too small.

[2] ibid.

Appendix D.1 Annual Network Site Review Forms for 2011

Pittsboro

Durham Armory in Durham

Bushy Fork

Butner

Franklinton

West Johnston in Johnston County

Millbrook in Raleigh

Fuquay

Finley Farm in Raleigh

Springfield Road in Rocky Mount

Leggett

Site Review Form Calendar Year 2011

Site Information

Region RRO	**Site Name** UP	**AQS Site # 37-** 037 - 0004
Street Address- RUSSET ROAD		**City** PITTSBORO
Urban Area Not in an Urban Area	**Core-based Statistical Area** Durham, NC	

Enter Exact		
Longitude –079 9' 55"	**Latitude** 35 45' 32"	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	**GPS** **Explanation:**

Elevation Above/below Mean Sea Level (in meters) ____

Name of nearest road to inlet probe RUSSET ROAD ADT ____ Year ____

Comments: ____

Distance of site to nearest major road (m) 500.00 Direction from site to nearest major road W

Name of nearest major road 15-501 ADT 1200 Year 2009

Comments: ____

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) ____ Direction to RR ___ ☒NA

Distance of site to nearest power pole w/transformer (m) ____ Direction ___

Distance between site and drip line of water tower (m) ____ Direction from site to water tower ____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☒ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☒ General/Background SO2 ☐ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☒ Upwind Background O3 ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☒ Urban ☐ Regional	☒ SLAMS O3 ☐ NCORE ☒ SPM SO2 ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☒

*Distance from probe to tree (m) 30 Direction from probe to tree E

*Height of tree (m) 15

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) ____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts_____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ___ Distance from probe inlet (m) ___ Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ___ Distance from probe inlet (m) ___ Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow = 200 L/min ☒ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background____ ☐ Highest Concentration____ ☒ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☒ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☒ Urban____ ☐ Regional____	☒ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☒ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐ ____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☒
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☒
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☒ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☒
*Distance from probe to tree (m) 15 Direction from probe to tree E
*Height of tree (m) 15

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle TREE Distance from probe inlet (m) 15 Direction from probe inlet to obstacle E
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☒ No ☐

Distance of probe to nearest traffic lane (m) 100 Direction from probe to nearest traffic lane S

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective ____) No ☒-
*3) Change scale of representativeness? Yes ☐ (enter new scale) No ☒
*4) Relocate site? Yes ☐ No ☒

Comments: ____

Reviewer Roy Doster Date January 3, 2012

Ambient Monitoring Coordinator ELT Date January 9, 2012

Revised 2012-05-29

Site Review Form Calendar Year 2011

Site Information

Region RRO	**Site Name** DurhamArmory	**AQS Site # 37-** 063 - 0015
Street Address- 100 Stadium Drive		**City** Durham
Urban Area DURHAM	**Core-based Statistical Area** Durham, NC	

Enter Exact		Method of Measuring	
Longitude -36.032944	**Latitude** 78.905417		
In Decimal Degrees	In Decimal Degrees	**GPS**	**Explanation: google**

Elevation Above/below Mean Sea Level (in meters) **112**

Name of nearest road to inlet probe Stadium Drive (no traffic count avail.) ADT _____ Year _____

Comments: Stadium Dr. is between US501-byp. and US501-bus. traffic counts on those two roads are in the 20k-35k range.

Distance of site to nearest major road (m) 100.00 Direction from site to nearest major road W

Name of nearest major road US501-byp ADT 32000 Year 2007

Comments: 501-byp is west of site, not east as previously recorded

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) 2760 Direction to RR S ☐NA

Distance of site to nearest power pole w/transformer (m) 43 Direction SSE

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

Durham County Stadium (Events-games, fairs, etc); Nat.GuardArmory - stack diesel veh.

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐General/Background ☐Highest Concentration ☐Max O3 Concentration ☒Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☒Neighborhood ☐Urban ☐Regional	☒SLAMS ☐NCORE ☐SPM ☐SPM/OPN ☐NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 3.87

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) 1.12

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☒ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 48 Direction from probe to nearest traffic lane N

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background____ ☐ Highest Concentration____ ☐ Max O3 Concentration_ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts	☐ Micro_____	☐ SLAMS _____ ☐ SPM_____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Background_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ NONREGULATORY _____

Probe inlet height (from ground) ☐ < 2 m _____ ☐ 2-7m _____ ☐ 7-15 m _____ ☐ > 15 m_____

Actual measured distance from probe inlet to ground (meters) _____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) _____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) _____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow = 200 L/min ☒ PM2.5 ☒ PM10 ☒ PM10-2.5 ☐ PM10 Lead (PB) ☒ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background____ ☐ Highest Concentration____ ☒ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☒ Neighborhood____ ☐ Urban_____ ☐ Regional____	☒ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ NONREGULATORY _____

Probe inlet height (from ground) ☐ < 2 m ____ ☒ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) teom=4.45, FRM=2.2m and 2.3m

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☒
FRM=2.1m and 5.0m (relative to tower) ; teom=1.7m (relative to roof)

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☒ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☒
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☒ No ☐ Give actual (meters) 2.9(frm-frm)
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐ Give actual (meters) 0.10m
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☒ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 40 Direction from probe to nearest traffic lane N

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-
*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐
*4) Relocate site? Yes ☐ No ☐

Comments: Ozone inlet is .73m and .88m away from, old CO/NO inlet and Deposition instrument, respectively. __

Reviewer tts Date January 4, 2012

Ambient Monitoring Coordinator elt Date January 5, 2012

Revised 2012-05-29

Site Review Form Calendar Year 2011

Site Information

Region RRO	**Site Name** BF	**AQS Site # 37-** 145 - 0003
Street Address: NC Highway 49		**City** Roxboro, NC
Urban Area ROXBORO	**Core-based Statistical Area** Durham, NC	

Enter Exact		
Longitude -W079.09223	**Latitude** N36.30693	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	**GPS** **Explanation: Google Maps**

Elevation Above/below Mean Sea Level (in meters) 199

Name of nearest road to inlet probe NC Highway 49 ADT 2900 Year 2007

Comments: _____

Distance of site to nearest major road (m) 175.00 Direction from site to nearest major road SE

Name of nearest major road NC Highway 49 ADT 2900 Year 2007

Comments: _____

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) _____ Direction to RR ___ ☒NA

Distance of site to nearest power pole w/transformer (m) 70 Direction SE

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_y (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☒ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☒ Urban ☐ Regional	☒ SLAMS ☐ NCORE ☐ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) 5

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) 2

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☒ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ___ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 175 Direction from probe to nearest traffic lane SE

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ NONREGULATORY _____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☐
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-
*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐
*4) Relocate site? Yes ☐ No ☒

Comments: _____

Reviewer Mike Pleasant Date December 29, 2011

Ambient Monitoring Coordinator ELT Date January 3, 2012

Revised 2012-03-13

Site Review Form Calendar Year 2011

Site Information

Region RRO	Site Name Butner	AQS Site # 37- 077 - 0011
Street Address- 800 Central Ave		City Butner
Urban Area BUTNER	Core-based Statistical Area None	

Enter Exact		Method of Measuring	
Longitude -78.76815	Latitude 36.14129		
In Decimal Degrees	In Decimal Degrees	GPS	Explanation: google maps

Elevation Above/below Mean Sea Level (in meters) 129

Name of nearest road to inlet probe West G street to the SE (no Traffic Count avail.) ADT _____ Year _____

Comments: G street is closest, CentralAve is closest "main" road (180m NE of site)

Distance of site to nearest major road (m) 180.00 Direction from site to nearest major road NE

Name of nearest major road Central Avenue ADT _____ Year _____

Comments: Interstae I-85 (exit 189) is 1.9 miles SE of site. ADT (2009) = 31,500

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) 1875 Direction to RR NE ☐NA

Distance of site to nearest power pole w/transformer (m) 58 Direction SSW

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

Water Treatment plant has tanks or signs for: Phosphate, NaOH, Anhyd.Ammonia, Alum.

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐ General/Background ☒ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☒ Urban ☐ Regional	☒ SLAMS ☐ NCORE ☐ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 3.70

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) 1.15

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ___ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 180 Direction from probe to nearest traffic lane NE

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background____ ☐ Highest Concentration____ ☐ Max O3 Concentration_ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ NONREGULATORY _____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☐
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-
*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐
*4) Relocate site? Yes ☐ No ☐

Comments: _____

Reviewer _____TTS_____ Date January 4, 2012

Ambient Monitoring Coordinator ELT_____ Date January 4, 2012

Revised 2012-03-13

Site Review Form Calendar Year 2011

Site Information

Region RRO	Site Name FF	AQS Site # 37- 183 - 0020
Street Address: 3720 Lake Wheeler Rd		City Raleigh
Urban Area RALEIGH	Core-based Statistical Area Raleigh-Cary, NC	

Enter Exact		Method of Measuring	
Longitude -W 078.68020	Latitude N 35.72880		
In Decimal Degrees	In Decimal Degrees	GPS	Explanation: Google Maps
Elevation Above/below Mean Sea Level (in meters)		132	

Name of nearest road to inlet probe Inwood Rd ADT 200 Year 2007

Comments:

Distance of site to nearest major road (m) 300.00 Direction from site to nearest major road W

Name of nearest major road Lake Wheeler Rd. ADT 13000 Year 2007

Comments:

Site located near electrical substation/high voltage power lines?		Yes ☐ No ☒
Distance of site to nearest railroad track	(m) 900 Direction to RR E	☐NA
Distance of site to nearest power pole w/transformer	(m) 300 Direction N	
Distance between site and drip line of water tower (m)	Direction from site to water tower	☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_y (NAAQS) ☐ HNO_y ☐ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☐ Urban ☐ Regional	☐ SLAMS ☐ NCORE ☐ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters)

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters)

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) Direction from probe to tree

*Height of tree (m)

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle Distance from probe inlet (m) Direction from probe inlet to obstacle

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) Direction from probe to nearest traffic lane

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow < 200 L/min ☒ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background ☐ Highest Concentration ☒ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☒ Neighborhood ☐ Urban ☐ Regional	☒ SLAMS ☐ NCORE ☐ SPM ☐ NONREGULATORY

Probe inlet height (from ground) ☐ < 2 m ☒ 2-7m ☐ 7-15 m ☐ > 15 m
Actual measured distance from probe inlet to ground (meters) 2.5

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☒
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☒
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☐ (answer *'d questions) No ☒ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters)
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters)
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☒ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters)
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters)
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☒ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ___ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐
*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐
*4) Relocate site? Yes ☐ No ☒

Comments: _____

Reviewer Mike Pleasant Date December 29, 2011

Ambient Monitoring Coordinator ELT Date January 3, 2012

Revised 2012-03-13

Site Review Form Calendar Year 2011

Site Information

Region RRO	**Site Name** West Johnston	**AQS Site #** 37- 101 - 0002
Street Address- 1338 Jack Road		**City** Clayton
Urban Area CLAYTON	**Core-based Statistical Area** Raleigh-Cary, NC	

Enter Exact		Method of Measuring	
Longitude -78.4622	**Latitude** 35.59095		
In Decimal Degrees	In Decimal Degrees	**Other (explain)**	**Explanation:** Google Maps

Elevation Above/below Mean Sea Level (in meters) 127

Name of nearest road to inlet probe Jack Road (SR 1557) ADT 1600 Year latest available2009

Comments: _____

Distance of site to nearest major road (m) 2400.00 Direction from site to nearest major road NNE

Name of nearest major road US Hwy 70 Bypass ADT 26000 Year latest available2010

Comments: _____

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) _____ Direction to RR ___ ☒NA

Distance of site to nearest power pole w/transformer (m) ____ Direction ___

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

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ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_y (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☒ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☒ Urban ☐ Regional	☒ SLAMS ☐ NCORE ☐ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 3.44

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) 0.8

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☒ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 19 Direction from probe to nearest traffic lane SW

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow < 200 L/min ☒ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background ☐ Highest Concentration ☒ Population Exposure ☐ Source Oriented ☐ Transport ☒ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☒ Neighborhood ☐ Urban ☐ Regional	☒ SLAMS ☐ NCORE ☐ SPM ☐ NONREGULATORY

Probe inlet height (from ground) ☐ < 2 m ☒ 2-7m ☐ 7-15 m ☐ > 15 m
Actual measured distance from probe inlet to ground (meters) 2

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater? Yes ☐ No ☐ NA ☒

Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater? Yes ☐ No ☐ NA ☒

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☐ (answer *'d questions) No ☒ NA ☐

*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) _____

*Are collocated PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) _____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☐ (answer *'d questions) No ☒ NA ☐

* Distance between collocated speciation sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) _____

* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) _____

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes ☐ (answer *'d questions) No ☒ NA ☐

*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m? Yes ☐ No ☐

*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ___ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 19 Direction from probe to nearest traffic lane SW

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)

*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐

*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐

*4) Relocate site? Yes ☐ No ☐

Comments: _____

Reviewer C. Marshall Cannon Date 01/04/2012

Ambient Monitoring Coordinator ELT Date January 9, 2012

Revised 2012-03-13

Site Review Form Calendar Year 2011

Site Information

Region RRO	**Site Name** Millbrook	**AQS Site # 37-** 18 - 0014
Street Address- 3801 Spring Forest Rd.		**City** Raleigh
Urban Area RALEIGH	**Core-based Statistical Area Raleigh-Cary, NC**	

Enter Exact		
Longitude -W78.574167	**Latitude** N35.85611	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	**GPS** **Explanation: GPS**

Elevation Above/below Mean Sea Level (in meters) **100**

Name of nearest road to inlet probe Spring Forest Rd. ADT 17000 Year 2007

Comments:

Distance of site to nearest major road (m) 40.00 Direction from site to nearest major road SW

Name of nearest major road Spring Forest Rd. ADT 17000 Year 2007

Comments:

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) Direction to RR ☒NA

Distance of site to nearest power pole w/transformer (m) Direction

Distance between site and drip line of water tower (m) Direction from site to water tower ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

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ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☐ SO_2 (NAAQS) ☒ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☒ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☒ CO (trace-level)	☐ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☒ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☒ Neighborhood ☐ Urban ☐ Regional	☐ SLAMS ☒ NCORE ☐ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 2

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) 1

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☒ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☒ *No ☐

*Distance from probe to tree (m) 11 Direction from probe to tree ENE

*Height of tree (m) 12

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle Distance from probe inlet (m) Direction from probe inlet to obstacle

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 40 Direction from probe to nearest traffic lane SW

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☒ NO_y (trace-level)	☐ General/Background____ ☐ Highest Concentration____ ☐ Max O3 Concentration_ ☒ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☒ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☒ NCORE____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☒ No ☐
Actual measured distance from probe inlet to ground (meters) ____10_

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☒ No ☐
Actual measured distance from probe to supporting structure (meters) ____1_

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☒ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☒ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☒ *No ☐
*Distance from probe to tree (m) _____9_____ Direction from probe to tree ENE
*Height of tree (m) _____12_____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 45 Direction from probe to nearest traffic lane SW

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow = 200 L/min ☒ PM2.5 ☒ PM10 ☒ PM10-2.5 ☐ PM10 Lead (PB) ☒ PM2.5 Cont. (TEOM) ☒ PM2.5 Cont. (BAM) ☒ PM2.5 Spec. (SASS) ☒ PM2.5 Spec. (URG) ☒ PM2.5 Cont. Spec.	☐ General/Background ☐ Highest Concentration ☒ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☒ Neighborhood ☐ Urban ☐ Regional	☐ SLAMS ☒ NCORE ☐ SPM ☐ NONREGULATORY

Probe inlet height (from ground) ☐ < 2 m ☒ 2-7m ☐ 7-15 m ☐ > 15 m
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☒ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☒ No ☐ NA ☐
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☒ No ☐ Give actual (meters) ____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐ Give actual (meters) ____
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☒ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☒ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☒ *No ☐
*Distance from probe to tree (m) 11 Direction from probe to tree SW
*Height of tree (m) 12

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) ____ Direction from probe inlet to obstacle ____
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ____

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective ____) No ☐
*3) Change scale of representativeness? Yes ☐ (enter new scale ____) No ☐
*4) Relocate site? Yes ☐ No ☐

Comments: ____

Reviewer RAT Date December 20, 2011

Ambient Monitoring Coordinator ELT Date January 3, 2012

Revised 2012-05-29

Site Review Form Calendar Year 2011

Site Information

Region RRO	**Site Name** FY	**AQS Site # 37-** 183 - 0016
Street Address- 201 North Broad Street		**City** FUQUAY VARINA
Urban Area FUQUAY-VARINA	**Core-based Statistical Area Raleigh-Cary, NC**	
Enter Exact		
Longitude -78.7925	**Latitude** 35.596944	**Method of Measuring**
In Decimal Degrees	In Decimal Degrees	**GPS** **Explanation: MAPQUEST**
Elevation Above/below Mean Sea Level (in meters)		

Name of nearest road to inlet probe Bengal Blvd SR4010 ADT 1000 Year 2009

Comments:

Distance of site to nearest major road (m) 350.00 Direction from site to nearest major road SE

Name of nearest major road Hy55/Broad St ADT 1600 Year 2009

Comments:

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) 600 Direction to RR SSW ☐NA

Distance of site to nearest power pole w/transformer (m) 100 Direction ESE

Distance between site and drip line of water tower (m) Direction from site to water tower ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐General/Background ☒Highest Concentration ☐Max O3 Concentration ☐Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☒Neighborhood ☐Urban ☐Regional	☒SLAMS ☐NCORE ☐SPM ☐SPM/OPN ☐NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters)

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters)

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☒ *No ☐

*Distance from probe to tree (m) 200 Direction from probe to tree S

*Height of tree (m) 10

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle Distance from probe inlet (m) Direction from probe inlet to obstacle

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 200 Direction from probe to nearest traffic lane S

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background____ ☐ Highest Concentration____ ☐ Max O3 Concentration_ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts	☐ Micro_____	☐ SLAMS _____ ☐ SPM_____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ___ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Background_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ NONREGULATORY _____

Probe inlet height (from ground) ☐ < 2 m _____ ☐ 2-7m _____ ☐ 7-15 m _____ ☐ > 15 m_____

Actual measured distance from probe inlet to ground (meters) _____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) _____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) _____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ___ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec	☐ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ NONREGULATORY _____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☐
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☒-
*3) Change scale of representativeness? Yes ☐ (enter new scale) No ☒
*4) Relocate site? Yes ☐ No ☒

Comments:_____

Reviewer Roy Doster Date January 9, 2012

Ambient Monitoring Coordinator ELT Date January 9, 2012

Revised 2012-05-29

Site Review Form Calendar Year 2011

Site Information

Region RRO	Site Name Franklinton	AQS Site # 37- 69 - 001
Street Address: State Road 1127		City Franklinton
Urban Area RALEIGH	Core-based Statistical Area Raleigh-Cary, NC	

Enter Exact		Method of Measuring	
Longitude 36.096059	Latitude -78.463841		
In Decimal Degrees	In Decimal Degrees	Interpolation	Explanation: Google Maps

Elevation Above/below Mean Sea Level (in meters) ____

Name of nearest road to inlet probe SR 1127 ADT 2200 Year 2006

Comments: ____

Distance of site to nearest major road (m) 500.00 Direction from site to nearest major road E

Name of nearest major road US-1 ADT 18000 Year 2007

Comments: ____

Site located near electrical substation/high voltage power lines? Yes ☐ No ☐

Distance of site to nearest railroad track	(m) 0 Direction to RR ___ ☒NA
Distance of site to nearest power pole w/transformer	(m) ____ Direction ___

Distance between site and drip line of water tower (m) ____ Direction from site to water tower ____ ☐NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐NA ☐SO_2 (NAAQS) ☐SO_2 (trace-level) ☐NO_y (NAAQS) ☐$HSNO_y$ ☒O_3 ☐NH_3 ☐Hydrocarbon ☐Air Toxics ☐HSCO (Not Micro) ☐CO (trace-level)	☐General/Background ☐Highest Concentration ☐Max O3 Concentration ☒Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☐Neighborhood ☒Urban ☐Regional	☒SLAMS ☐NCORE ☐SPM ☐SPM/OPN ☐NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 2.5

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☒ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) ____ Direction from probe to tree ___

*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ___ Distance from probe inlet (m) ____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ NONREGULATORY _____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☐
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-
*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐
*4) Relocate site? Yes ☐ No ☐

Comments: _____

Reviewer Jimmy Reske Date 01/03/12

Ambient Monitoring Coordinator elt DateJanuary 9, 2012

Revised 2012-03-13

Site Review Form Calendar Year 2011

Site Information

Region RRO	**Site Name** SR	**AQS Site #** 37- 065 - 0004	
Street Address 900 Springfield Rd.		**City** Rocky Mt., NC	
Urban Area ROCKY MOUNT	**Core-based Statistical Area** Rocky Mount, NC		
Enter Exact			
Longitude -W 07745'0"	**Latitude** N35 56' 0"	**Method of Measuring**	
In Decimal Degrees	In Decimal Degrees	**GPS**	**Explanation:** Google Maps
Elevation Above/below Mean Sea Level (in meters)		33	

Name of nearest road to inlet probe Springfield Rd. ADT 4300 Year 2007

Comments:

Distance of site to nearest major road (m) 125.00 Direction from site to nearest major road E

Name of nearest major road US 64 Business ADT 12000 Year 2007

Comments:

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) 3800 Direction to RR E ☐NA

Distance of site to nearest power pole w/transformer (m) 75 Direction E

Distance between site and drip line of water tower (m) Direction from site to water tower ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

ANSWER ALL APPLICABLE QUESTIONS

Parameters	Monitoring Objective	Scale	Site Type
☒NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_y (NAAQS) ☐ HNO_y ☐ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐General/Background ☐Highest Concentration ☐Max O3 Concentration ☐Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☐Neighborhood ☐Urban ☐Regional	☐SLAMS ☐NCORE ☐SPM ☐SPM/OPN ☐NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters)

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters)

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) Direction from probe to tree

*Height of tree (m)

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle Distance from probe inlet (m) Direction from probe inlet to obstacle

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) Direction from probe to nearest traffic lane

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☐ NO_y (trace-level)	☐ General/Background____ ☐ Highest Concentration____ ☐ Max O3 Concentration_ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ___ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ___ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow = 200 L/min ☒ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☒ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☒ Neighborhood____ ☐ Urban____ ☐ Regional____	☒ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☒ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) 2.5

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☒
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☒
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☐ (answer *'d questions) No ☒ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☒ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☒ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-
*3) Change scale of representativeness? Yes ☐ (enter new scale) No ☐
*4) Relocate site? Yes ☐ No ☒

Comments: _____

Reviewer Mike Pleasant Date December 29, 2011

Ambient Monitoring Coordinator ELT Date January 3, 2012

Revised 2012-05-29

Site Review Form Calendar Year 2011

Site Information

Region RRO	**Site Name** Leggett	**AQS Site #** 37- 065 - 009
Street Address- 245 North Carolina HWY 97		**City** Leggett
Urban Area TARBORO	**Core-based Statistical Area** Rocky Mount, NC	

Enter Exact		Method of Measuring	
Longitude 35.98829	**Latitude** -77.58445		
In Decimal Degrees	In Decimal Degrees	**Interpolation**	**Explanation: Google Maps**

Elevation Above/below Mean Sea Level (in meters) ____

Name of nearest road to inlet probe NC 97 ADT ____ Year ____

Comments: ____

Distance of site to nearest major road (m) 92.00 Direction from site to nearest major road SSE

Name of nearest major road NC 97 ADT 2600 Year 2009

Comments: ____

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) ____ Direction to RR ___ ☒NA

Distance of site to nearest power pole w/transformer (m) 92 Direction S

Distance between site and drip line of water tower (m) ____ Direction from site to water tower ____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☒ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☒ Neighborhood ☐ Urban ☐ Regional	☒ SLAMS ☐ NCORE ☐ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 2.5

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) ____ Direction from probe to tree ___

*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) ____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background____ ☐ Highest Concentration____ ☐ Max O3 Concentration_ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts	☐ Micro_____	☐ SLAMS _____ ☐ SPM_____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Background_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ NONREGULATORY _____

Probe inlet height (from ground) ☐ < 2 m _____ ☐ 2-7m _____ ☐ 7-15 m _____ ☐ > 15 m_____

Actual measured distance from probe inlet to ground (meters) _____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) _____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) _____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☒ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec	☒ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☒ Neighborhood____ ☐ Urban____ ☐ Regional____	☒ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☒ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) __2m__

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☒
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☒
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☒ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-
*3) Change scale of representativeness? Yes ☐ (enter new scale) No ☐
*4) Relocate site? Yes ☐ No ☐

Comments:_____

Reviewer _____JIMMY RESKE_____ Date January 3, 2012

Ambient Monitoring Coordinator ____clt_____ Date January 9, 2012

Revised 2012-05-29

Appendix D-2. Scale of Representativeness

Each station in the monitoring network must be described in terms of the physical dimensions of the air parcel nearest the monitoring station throughout which actual pollutant concentrations are reasonably similar. Area dimensions or scales of representativeness used in the network description are:

a) Microscale - defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.

b) Middle scale - defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.

c) Neighborhood scale – defines concentrations within an extended area of a city that has relatively uniform land use with dimensions ranging from about 0.5 to 4.0 kilometers.

d) Urban scale - defines an overall citywide condition with dimensions on the order of 4 to 50 kilometers.

e) Regional Scale - defines air quality levels over areas having dimensions of 50 to hundreds of kilometers.

Closely associated with the area around the monitoring station where pollutant concentrations are reasonably similar are the basic monitoring exposures of the station.

There are six basic exposures:

a) Sites located to determine the highest concentrations expected to occur in the area covered by the network.

b) Sites located to determine representative concentrations in areas of high population density.

c) Sites located to determine the impact on ambient pollution levels of significant sources or source categories.

d) Sites located to determine general background concentration levels.

e) Sites located to determine the extent of regional pollutant transport among populated areas.

f) Sites located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts and in support of secondary standards.

The design intent in siting stations is to correctly match the area dimensions represented by the sample of monitored air with the area dimensions most appropriate for the monitoring objective of the station. The following relationship of the six basic objectives and the scales of representativeness are appropriate when siting monitoring stations:

Table D3. Site Type Appropriate Siting Scales

1. Highest concentration	Micro, middle, neighborhood (sometimes urban or regional for secondarily formed pollutants)
2. Population oriented	Neighborhood, urban
3. Source impact	Micro, middle, neighborhood
4. General/background & regional transport	Urban, regional
5. Welfare-related impacts	Urban, regional